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The remaining challenge—mainstreaming the use of LCA

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This special issue 'Life Cycle Performance of Aluminium Applications' centres around life cycle inventory data development and provision, life cycle assessment (LCA) applications and life cycle management in the aluminium industry and related sectors. It shows the role industry can play not only in using LCA but also in making life cycle inventory data and other LCA knowledge available in a comprehensive and transparent manner.

With this spectrum of LCA-related initiatives—and there are similar initiatives in other sectors as well as across sectors (see, e.g. Pennington et al. 2007; Fava et al. 2007)—one could assume that the use of LCA for real-world decision making is now widespread and part of mainstream activities related to businesses, governmental and non-governmental organisations. The required data and databases, software tools as well as the methodological framework are available and—from a practitioner's point of view—often not that controversial. Controversial discussions are often focusing on details which may be very relevant from a scientific point of view, but do not affect significantly the implications for decision making. This is also facilitated by the ISO 14000 family of standards as well as by international collaboration efforts.

The reality, however, is quite different. Whilst tremendous progress has been made and many decision makers are now familiar with the term LCA and (some) of its applications, the use of LCA for influencing activities and making choices, setting strategy and direction, etc. is still extremely limited. Generally, there is still a huge lack of understanding and knowledge of what LCA—apart from a buzzword—really is and can or cannot do. For example, in a survey by Packaging Digest and the Sustainable Packaging Coalition conducted in 2008 (Packaging Digest 2008), more than 1,100 packaging professionals were asked about criteria used to evaluate the environmental sustainability of packaging: 52% listed 'recycled content' and 39% mentioned energy consumption, whilst only 27% named 'life cycle analysis' (the ISO-defined term 'life cycle assessment' was not used). Here, we do not want to go into any discussions on recycling allocation or the unquestionable benefits of energy efficiency measures; this prominent example rather shows that LCA as a methodological framework is only understood by little more than a quarter of the respondents. If one addresses end consumers, there will be even more attention to single issues and less understanding of life cycle thinking and related performance criteria. So even in an industry where environmental impacts have been a concern for decades and where uncountable numbers of LCAs have been conducted and published, knowledge about LCA and what LCA can do is not yet part of mainstream thinking. After all these years of developments and demonstrating the value of life cycle thinking, the perception of what is environmentally preferable or not still dominates.

So what can we conclude from this short discussion on the disconnection between existing knowledge on LCA and

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limited use in the real world? We need scientific research and development, the data and all the discussions around these aspects, but we also need to work on awareness creation and education and that to a much bigger extent. Only if LCA is understood and as mainstream, as for instance quality or general cost management as elements of standard business or administrative processes, can we really exploit its potential. We should not only 'preach to the converted' and make it accessible only to specific audiences but also leverage it for our everyday lives and real-world sustainability advancements. The LCA community has to spend much more efforts on making LCA known also to non-experts rather than confusing them with detailed discussions and complexity. There are sometimes discussions on LCA where the LCA experts do not really understand the problem of organisations because from an expert's point of view, the solution may be quite obvious, whereas the other side is threatened by the complexity and potential controversy around LCA results, not to speak of the efforts of doing comprehensive studies. One example is the discussion on carbon footprinting (see also Schmidt 2009, this issue): Carbon footprinting is often seen as the preferred approach to LCA because of its perceived simplicity. On the other hand, how can one do a proper carbon footprint exercise without doing a proper LCA? And if one is doing an LCA, there is no need to restrict the life cycle impact assessment to the factor of climate change via using standard software packages. On topics like this, we need much more dialogue and learning, both from the side of the LCA community as well as of non-experts and organisations that want to work on environmental improvements. The LCA community needs to learn the language of the receiver and has to ensure that LCA plays an important role in the sustainability debate also in the future—in the real world and not only in the scientific ivory tower.

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